

11. Personnel Monitoring Devices

Regulations: 180 NAC 4-005, 180 NAC 4-006, 180 NAC 4-011, 180 NAC 4-012, 180 NAC 4-022.

Criteria: *Applicants must do either of the following:*

- *Provide dosimetry processed and evaluated by a National Voluntary Laboratory Accreditation Program (NVLAP) approved processor that is exchanged at a frequency recommended by the processor.*

Or

- *Maintain, for inspection by the Agency, documentation demonstrating that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10 percent of the allowable limits. Annual Dose limits for radiation workers 180 NAC 4-004:*

Skin 0.50 Sv (50 rems)

Eyes 0.15 Sv (15 rems)

Elbows to hands 0.50 Sv (50 rems)

Knees to feet 0.50 Sv (50 rems)

Total effective dose equivalent TEDE (whole body) 0.05 Sv (5 rems)

Normally, personnel using portable moisture-density gauges wear personnel monitoring devices although under conditions of routine for most users this is not required. Users of devices exhibiting low radiation levels at the surface of the device, such as x-ray fluorescence analyzers, etc. are not usually required to wear personnel monitoring devices.

Part 1 of Appendix K provides guidance on preparing a written evaluation demonstrating that users are not likely to exceed 10 percent of the applicable limits and thus, are not required to have personnel dosimetry.

Most licensees use either film badges or thermoluminescent dosimeters (TLDs) or Optically Stimulated Luminescence Dosimetry (OSLs) that are supplied by a NVLAP-approved processor. Applicants should verify that the processor is NVLAP-approved. A list of NVLAP accredited dosimetry vendors is available on the Internet at <http://ts.nist.gov/ts/htdocs/210/214/scopes/dosim.htm>

Each order of badges includes a control badge for measuring the amount of background radiation the badges receive each monitoring period and radiation received during shipping. This enables the control badge's reading to be subtracted from the total reading to provide an accurate record of each worker's occupational exposure. When not in use, personnel monitoring badges should be stored with the control badge to ensure accurate dosimetry records. The control badge must be returned with the other personnel monitoring badges each monitoring period.

Response from Applicant: Provide either of the following:

- “We will provide dosimetry processed and evaluated by a NVLAP approved processor that is exchanged at a frequency recommended by the processor.”

“We will be using the following type:

☐ Film Badge ☐ TLD ☐ OSLD ☐ Other (Specify)_____

The supplier is: _____

The exchange frequency is:

☐ Monthly ☐ Quarterly ☐ Other (Specify)

Or

- “We will maintain, for inspection by the Agency, documentation demonstrating that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10 percent of the allowable limits of 180 NAC 4”

Note: See Appendix K for guidance on demonstrating that unmonitored individuals are not likely to exceed 10 percent of the allowable limits.